

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

AMENDMENTS TO THE CLAIMS:

Claims 1-7 (cancelled)

8. (Currently Amended) A component mounting apparatus comprising:

~~a pair of~~ first and second component supply tables for accommodating a plurality of components, said first and second component supply tables being arranged on ~~opposite~~ both sides of a board ~~mounting position~~ transfer path;

a first ~~mounting head section~~ rotary member having a plurality of rotatably supported ~~component suction~~ first nozzles, wherein said first rotary member is rotatable such that upon rotation of said first rotary member ~~said first~~ the first head section can rotate the component suction nozzles simultaneously rotate for successively picking up ~~the plural~~ first components at said first ~~one of the~~ component supply ~~tables~~ table by suction, thereafter the said first rotary member ~~mounting head section~~ can be moved to a board positioned at ~~the~~ a board mounting position, and thereafter the plural picked-up first components can be successively mounted onto the board while the said first rotary member ~~mounting head section~~ is moved in first and second directions which are perpendicular to each other, wherein with the first direction is being perpendicular to ~~a direction in which the board is transferred~~ the board transfer path, and the second direction is being located along the board transfer ~~path~~ direction; and

a second rotary member ~~mounting head section~~ having a plurality of rotatable ~~component suction~~ second nozzles, wherein said second rotary member is rotatable such that upon rotation of said second rotary member ~~said second~~ the second head section is capable of rotating the ~~component suction~~ nozzles simultaneously rotate for successively picking up second ~~the plural~~ components at said second ~~the other of the~~ component supply ~~tables~~ table by suction, thereafter the said second ~~mounting head section is~~ rotary member can move ~~capable of moving the component suction nozzles~~ to the board positioned at the board mounting position, and thereafter the plural picked-up second components can be successively mounted onto the board while the said second rotary member ~~mounting head~~ moves in third and fourth directions which are perpendicular to each other, wherein with the third direction is being parallel to the first direction, and the fourth direction is being parallel to the second direction but is not necessarily the same as the second direction,

wherein each of the said first and second rotary members mounting head sections is independently moveable between the a respective one of said first and second component supply table tables and the board when the board is at the board mounting position, and the said first rotary member mounting head section is capable of mounting the plural picked-up components onto the board while the said second rotary member mounting head section successively sucks to pick up the plural components at the other of the said second component supply tables table.

9. (Currently Amended) The component mounting apparatus as claimed in claim 8, wherein the first, second, third and fourth directions are said each of said first and second mounting head sections is moveable in two directions which are perpendicular to each other and are each in a plane that is parallel to a surface of the board transfer path.

10. (Currently Amended) The component mounting apparatus as claimed in claim 8, further comprising a controller for mutually controlling the said first and second rotary members mounting head sections in accordance with a timing at which, when one of the said first and second mounting head sections rotary member carries out a component picking-up operation for picking-up the components from the said first component supply table, the other of the first and said second rotary member mounting head sections carries out a component mounting operation for mounting the picked-up components onto the board when the board is at the board mounting position.

11. (Currently Amended) The component mounting apparatus as claimed in claim 9, further comprising a controller for mutually controlling the said first and second rotary members mounting head sections in accordance with a timing at which, when one of the said first and second mounting head sections rotary member carries out a component picking-up operation for picking-up the components from the said first component supply table, the other of the first and said second rotary member mounting head sections carries out a component mounting operation for mounting the picked-up components onto the board when the board is at the board mounting position.

Claim 12-17 (cancelled)

18. (Currently Amended) A component mounting apparatus comprising:

~~a pair of~~ first and second component supply tables for accommodating a plurality of components, said first and second component supply tables being arranged on opposite sides of a board mounting position, wherein a board transfer path along which a board is transferred extends between said first and second component supply tables;

a first rotary member having first nozzles, wherein said first rotary member is rotatable such that upon rotation of said first rotary member said first nozzles simultaneously rotate mounting head section for successively picking up ~~the plural~~ first components at ~~one of the said first~~ component supply ~~tables~~ table and thereafter successively mounting the plural picked-up first components onto a board, positioned at the board mounting position, while moving in first and second directions which are perpendicular to each other, wherein with the first direction is being perpendicular to ~~a direction in which the board transfer path is transferred,~~ and the second direction is being located along the board transfer ~~direction path;~~ and

a second rotary member having second nozzles, wherein said second rotary member is rotatable such that upon rotation of said second rotary member said second nozzles simultaneously rotate mounting head section for successively picking up ~~the plural~~ second components at ~~the other of the said second~~ component supply ~~tables~~ table and thereafter successively mounting the plural picked-up second components onto the board, positioned at the board mounting position, while moving in third and fourth directions which are perpendicular to each other, wherein with the third direction is being parallel to the first direction, and the fourth direction is being parallel to the second direction but is not necessarily the same as the second direction,

wherein each of the said first and second mounting head sections rotary members is independently movable between a respective one of the said first and second component supply tables and the board when the board is at the board mounting position, and

~~wherein each of the first and second mounting head sections has a plurality of rotatably supported component suction nozzles capable of sucking more than one of the plurality of components prior to a component mounting operation, and each of the mounting head sections is capable of rotating the component suction nozzles;~~

wherein the said first mounting head section rotary member is capable of mounting ~~the plural~~ picked-up components onto the board, at the board mounting position, while ~~the~~ said second rotary member mounting head section successively ~~sucks to pick~~ picks up more than one of the plurality of components, via said second nozzles, at the other of the said second component supply ~~tables~~ table.

19. (Currently Amended) ~~A~~ The component mounting apparatus according to claim 8, further comprising a board positioning section for positioning the board at the board mounting position such that the board is not moved during the mounting of ~~the~~ components thereon via said first and second rotary members.

20. (Currently Amended) ~~A~~ The component mounting apparatus according to claim 8, wherein said first and second component supply tables are to accommodate different kinds of components.

21. (Currently Amended) ~~A~~ The component mounting apparatus according to claim 18, wherein said first and second component supply tables are to accommodate different kinds of components.

22. (Currently Amended) ~~A~~ The component mounting apparatus according to claim 8, wherein at least one of said first and second component supply tables is capable of continuously supplying ~~the~~ components.

23. (Currently Amended) ~~A~~ The component mounting apparatus according to claim ~~8~~ 18, wherein at least one of said first and second component supply tables is capable of continuously supplying ~~the~~ components.

24. (Currently Amended) A component mounting apparatus comprising:

~~a pair of~~ first and second component supply tables for accommodating a plurality of components, said component supply tables being arranged on ~~opposite both~~ sides of a board mounting position transfer path;

a first rotary member mounting head section having a plurality of first nozzles that are rotatably supported, wherein said first rotary member is rotatable such that upon rotation of said first rotary member said first nozzles simultaneously rotate for successively picking up first more than one of the components at ~~one of the~~ said first component supply ~~tables~~ table and thereafter successively mounting the picked-up first components ~~on onto~~ a board that is positioned at ~~the~~ a board mounting position, said first mounting head section rotary member being movable in first and second directions which are perpendicular to each other, ~~wherein with~~ the first direction is being perpendicular to a ~~direction in which the board transfer path is transferred~~, and the second direction is being along the ~~direction in which the board transfer path is transferred~~; and

a second rotary member mounting head section having a plurality of second nozzles that are rotatably supported, wherein said second rotary member is rotatable such that upon rotation of said second rotary member said second nozzles simultaneously rotate for successively picking up more than one of the second components at ~~one of the~~ said second component supply ~~tables~~ table and thereafter successively mounting the picked-up second components ~~on onto~~ the board, positioned at the board mounting position, while the said second rotary member mounting head section moves in third and fourth directions which are perpendicular to each other, ~~wherein with~~ the third direction is being perpendicular to a ~~direction in which the board transfer path is transferred~~, and the fourth direction is being along the ~~direction in which the board transfer path is transferred~~;

wherein each of the said first and second rotary members mounting head sections is independently movable between ~~the~~ a respective one of said first and second component supply tables and the board when the board is at the board mounting position, and

wherein the said first mounting head section rotary member is capable of mounting the plural picked-up first components ~~on onto~~ the board, at the board mounting position, while the said second mounting head section rotary member successively picks up the plural components at the ~~other of the~~ said second component supply ~~table~~ tables.

25. (Currently Amended) A The component mounting apparatus according to claim 24, further comprising a board positioning section for positioning the board at the board mounting position such that the board is not moved during mounting of the components thereon by said first and second rotary members.

26. (Currently Amended) A The component mounting apparatus as according to claim 24, wherein each of said first and second ~~mounting head sections~~ includes a rotary member ~~that members~~ is rotatable about a horizontal axis, and wherein said first and second ~~plurality of component suction~~ nozzles are positioned, respectively, on said first and second rotary member ~~members~~ at regular intervals about the horizontal axis.

27. (Currently Amended) A The component mounting apparatus according to claim 24, wherein said first and second component supply tables are to accommodate different kinds of components.

28. (Currently Amended) A The component mounting apparatus according to claim 24, wherein at least one of said first and second component supply tables is capable of continuously supplying ~~the~~ components.

Claim 29 (cancelled)

30. (Currently Amended) The component mounting apparatus as claimed in claim 8, wherein ~~the first head section includes a~~ said first rotary member ~~that~~ is rotatable about a horizontal axis, and ~~the component suction~~ said first nozzles are mounted on ~~the~~ said first rotary member so that each of ~~the component suction~~ said first nozzles can be selectively and sequentially directed ~~downward~~ downwardly to suck a component from ~~one of the~~ said first component supply ~~tables~~ table and mount the sucked ~~components~~ component onto the board when the board is at the board mounting position.

Claim 31 (cancelled)

32. (Currently Amended) The component mounting apparatus as claimed in claim 18, wherein ~~the first head section includes a~~ said first rotary member ~~which~~ is rotatable about a horizontal axis, and ~~the component suction~~ said first nozzles are mounted on ~~the~~ said first rotary member so that each of ~~the component suction~~ said first nozzles can be selectively and sequentially directed ~~downward~~ downwardly to suck a component from ~~one of the~~ said first component supply ~~tables~~ table and mount the sucked ~~components~~ component onto ~~on~~ the board when the board is at the board mounting position.

Claim 33 (cancelled)

34. (Currently Amended) The component mounting apparatus as claimed in claim 24, wherein ~~said head section includes~~ first rotary member ~~which~~ is rotatable about a horizontal axis, and ~~the component suction~~ said first nozzles are mounted on ~~the~~ said first rotary member so that each of ~~the component suction~~ said first nozzles can be selectively and sequentially directed ~~downward~~ downwardly to suck a component from ~~one of the~~ said first component supply ~~tables~~ table and mount the sucked ~~components~~ component onto ~~on~~ the board when the board is at the board mounting position.